

Amendments to the Claims

The present Response amends Claims 1, 3, 10-13 and 15-20; cancels Claim 8; and adds Claims 21-24. All pending claims are reproduced below, including those that remain unchanged.

1. (Currently Amended) A method for automatically generating a multi-level video summary, comprising:

automatically dividing a video file into multimedia stream segments without user input using segmenting criteria;

automatically generating at least two summary levels without user input, wherein each of the summary levels has a different level of detail ~~for related video segments~~ and each of the summary levels is a linear ~~full-motion-video~~ multimedia stream which includes at least one of the ~~video~~ multimedia stream segments from the video file, the ~~video~~ multimedia stream segments in each of the summary levels selected using selection criteria and at least one algorithm; and

automatically generating navigational links between the ~~video~~ multimedia stream segments in the summary levels without user input, wherein one or more algorithms are used to dynamically determine link behavior, the navigational links connecting the ~~video~~ multimedia stream segments containing related material.

2. (Original) A method according to claim 1, further comprising:
automatically determining the length of each summary level.

3. (Currently Amended) A method according to claim 1, further comprising:
automatically grouping ~~video~~ multimedia stream segments in a summary level into a video composite, the video composite including at least two ~~video~~ multimedia stream segments in the summary level.

4. (Original) A method according to claim 1, further comprising:
providing a user interface whereby a user can view the multi-level video summary, the user interface allowing the user to navigate between summary levels using the navigational links.

5. (Cancelled)

6. (Original) A method according to claim 1, further comprising:
automatically determining the number of summary levels to generate.
7. (Original) A method according to claim 1, further comprising:
automatically determining which navigational links to generate.
8. (Cancelled)
9. (Original) A method according to claim 1, wherein:
the selection criteria includes criteria selected from the group consisting of goodness, smoothness of camera operation, amount of camera motion, location in the video, and lighting level.
10. (Currently Amended) A method according to claim 1, further comprising:
providing the ability for an author to refine the navigational links within the automatically-generated multi-level video summaries.
11. (Currently Amended) A method according to claim 1, further comprising:
including the first and last ~~video~~ multimedia stream segments from the video file in the summary levels.
12. (Currently Amended) A method according to claim 1, further comprising:
ensuring that the selection of ~~video~~ multimedia stream segments includes ~~video~~ multimedia stream segments distributed throughout the video file.
13. (Currently Amended) A method according to claim 1, wherein:
each navigational link includes a source anchor in one summary level, a destination anchor in another summary level, and at least one return behavior, wherein the placement of the source anchor and the destination anchor within each summary level is dynamically determined using an algorithm while the multimedia stream segments are being played.

14. (Original) A method according to claim 13, wherein:
each navigational link further includes a label.
15. (Currently Amended) A method according to claim 13, further comprising:
automatically grouping some of the ~~video~~ multimedia stream segments in a summary level into a video composite that will be a source anchor for a link to another summary level.
16. (Currently Amended) A method according to claim 1, wherein:
the ~~video~~ multimedia stream segments in each summary level are in chronological order as the ~~video~~ multimedia stream segments appear in the video file.
17. (Currently Amended) A method according to claim 1, wherein:
each summary level includes a different number of ~~video~~ multimedia stream segments.
18. (Currently Amended) A method according to claim 13, wherein:
the return behavior includes a return position selected from the group consisting of the beginning of a ~~video~~ multimedia stream segment, the point in a ~~video~~ multimedia stream segment at which a navigational link is followed, and the end of a ~~video~~ multimedia stream segment.
19. (Currently Amended) A system for automatically generating a multi-level video summary, comprising:
means for automatically dividing a video file into ~~full-motion-video~~ multimedia stream segments without user input using segmenting criteria;
means for automatically generating at least two summary levels, wherein each of the summary levels has a different level of detail ~~for related video segments~~ and each of the summary levels is a linear ~~full-motion-video~~ multimedia stream which includes at least one of the ~~video~~ multimedia stream segments from the video file, the ~~video~~ multimedia stream segments in each of the summary levels selected using selection criteria and at least one algorithm; and
means for automatically generating navigational links between the ~~video~~ multimedia stream segments in the summary levels, wherein one or more algorithms are used to

dynamically determine link behavior, the navigational links connecting the ~~video~~ multimedia stream segments containing related material.

20. (Currently Amended) A ~~machine-readable~~ computer-readable medium having executable instructions stored thereon that ~~when executed cause a system to~~ performs a function, the function comprising the steps of:

automatically divide a video file into ~~full-motion-video~~ multimedia stream segments without user input using segmenting criteria;

automatically generate at least two summary levels without user input, wherein each of the summary levels has a different level of detail ~~for related video segments~~ and each of the summary levels is a linear ~~full-motion-video~~ multimedia stream which includes at least one of the ~~video~~ multimedia stream segments from the video file, the ~~video~~ multimedia stream segments in each of the summary levels selected using selection criteria and at least one algorithm; and

automatically generate navigational links between the ~~video~~ multimedia stream segments in the summary levels without user input, wherein one or more algorithms are used to dynamically determine link behavior, the navigational links connecting the ~~video~~ multimedia stream segments containing related material.

21. (New) The method according to claim 1, further comprising:

providing a user interface to allow a user to refine the automatically generated navigational links, wherein each level of the summary is presented in a layout as a horizontal list of keyframes, wherein the navigational links are pictorially represented as arrows going into and out of the keyframes, and wherein the user refines the navigational links by manipulating the pictorially represented arrows.

22. (New) The method according to claim 1, further comprising:

mapping of the multimedia streams to channels; and
determining the link behavior based on multimedia stream correlations and the time at which a channel change is requested from a user.

23. (New) The method according to claim 1, wherein a less detailed summary level does not include a multimedia stream segment that is found in a more detailed summary level.

24. (New) The method according to claim 1, wherein the navigational links are not linked to any keyframes.